

**CLAIMS:**

1. A wrap for securing about a blood vessel by encasing a section of the vessel, the wrap being of thin flexible construction having two ends and two sides, wherein the wrap is more elastic or stretchable at, near, or along at least some of its sides compared to at, near, or along its centre, to provide strain relief from wrapped to unwrapped aorta.
2. The wrap as claimed in claim 1, wherein the wrap is not inelastic, whereby loss of aortic compliance is minimised, or enhanced.
3. A wrap for securing about a blood vessel by encasing a section of the vessel, the wrap being of thin flexible construction having two ends and two sides and being adapted to apply, in use, less compressive force at, near, or along at least some of its sides compared to at, near, or along its centre.
4. The wrap as claimed in claim 1, 2 or 3, wherein the wrap is adapted for securing a vessel deformer adjacent the vessel, by sandwiching the deformer between the vessel and the wrap.
5. The wrap as claimed in claim 4, wherein the vessel deformer is part of an implantable counter-pulsation heart assist device.
6. The wrap as claimed in claim 5, wherein the vessel deformer is an inflatable balloon or chamber.
7. The wrap as claimed in claim 6, wherein the wrap is adapted to secure the inflatable balloon or chamber against an aorta.
8. The wrap as claimed in claim 7, wherein the wrap is adapted to secure the inflatable balloon or chamber against an ascending aorta.
9. The wrap as claimed in any one of the preceding claims, wherein the wrap is of woven or knitted construction, or a combination of those constructions.
10. The wrap as claimed in claim 9, wherein the wrap is made of polyester or PET (polyethylene terephthalate).
11. The wrap as claimed in any one of the preceding claims, wherein the wrap has slits along some of its sides.
12. The wrap as claimed in claim 11, wherein the wrap has a series of spaced part slits that are normal to the direction of the sides.
13. The wrap as claimed in any one of claims 1 to 10, wherein the wrap has warp fibres at, near, or along its sides that are more elastic than the warp fibres at, near, or along its centre.

14. The wrap as claimed in claim 13, wherein the warp fibres, near or along its sides are crimped and the warp fibres at, near, or along its centre are un-crimped or less crimped.

15. The wrap as claimed in any one of claims 1 to 10, wherein the wrap  
5 includes a strip of substantially centrally placed material, the strip having a tensile strength greater than that of the rest of the wrap.

16. The wrap as claimed in claim 15, wherein the two sides of the wrap can be of similar, or differing, elasticity or stretchability to each other.

17. The wrap as claimed in any of claims 1 to 10, wherein the wrap is made  
10 from woven fabric cut on the bias and is more elastic at or near its sides.

18. The wrap as claimed in any one of the preceding claims, wherein the wrap is thinner at, near, or along its sides compared to at, near, or along its centre.

19. The wrap as claimed in any one of the preceding claims, wherein the wrap is about six times longer than it is wide.

20. The wrap as claimed in any one of the preceding claims, wherein the  
15 wrap has a slimmed region at or near its longitudinal midpoint.

21. The wrap as claimed in claim 20, wherein the wrap includes one or more longitudinal slits near its thinned region to allow the wrap to conform radially more closely with the inner curve of the aorta.

22. The wrap as claimed in any one of any one of the preceding claims,  
20 wherein the wrap is shaped to allow good conformance with the curved aorta.

23. The wrap as claimed in any one of the preceding claims, wherein the wrap also includes an opening for a fluid tube.

24. The wrap as claimed in any one of the preceding claims, wherein the  
25 wrap is coated with a material to reduce its surface area and to limit tissue ingrowth.

25. The wrap as claimed in claim 24, wherein the wrap is coated on one or both sides with either silicone or polyurethane or a co-polymer of both silicone and polyurethane.

26. The wrap as claimed in any one of claims 1 to 22, wherein the wrap has  
30 an open weave or mesh structure.